of quartz were clearly formed before the magma rose to the surface and their corroded or embayed condition is due to resorption by the magma. It is generally assumed that the relief of pressure causes a change in equilibrium and as a result of relief the magma ceases to precipitate quartz and dissolves some of that which has been precipitated. Does the presence of quartz instead of tridymite show that the temperature of solidification was less than 800°? In the case of granitic rocks where the last crystals formed are an eutectic, the temperatures there are low, but in the porphyries containing resorbed quartz the latter must have been present in excess of the eutectic for the temperature and pressure prevailing at the time.

If the pressures do not seriously affect the quartz thermometer then it follows that the excess quartz in porphyries (phenocrysts) does not begin to be precipitated until the lava has cooled to 800°. From this and the great abundance and wide distribution of the resorbed quartz phenocrysts, it follows that the siliceous lavas probably rise to the surface very slowly—so slowly that the large quartz crystals may be precipitated and again resorbed while the lava which ultimately solidifies as a glassy rock has cooled to 800°.

If calcite, pyrite, or some other common vein mineral should supply another point near 100° C., certain vexed problems related to the genesis of an important class of metalliferous deposits could easily be solved.

W. H. E.

Seventeenth Annual Report of the Ontario Bureau of Mines, 1908. Published by order of the Legislative Assembly of Ontario. THOS. W. GIBSON, Deputy Minister of Mines, Toronto, 1908.

The report includes a statistical review of the mineral productions of Ontario for 1907, technological and geological notes on various mines by E. T. Corkill, a description of the geology of Thunder Bay–Algoma Boundary by Arthur S. Parsons, of the Iron Ranges east of Lake Nipigon by A. P. Coleman and E. S. Moore, and a review of the iron and steel industry of Ontario by George Cleghorn Mackenzie.

The value of the mineral production for 1907 was $25,019,373.00, an increase of 12 per cent. over 1906. Six metals yielded nearly fifteen million dollars. These, in order of their value, are silver, iron, nickel (ore value), copper, cobalt, gold. The non-metallic products yielded above ten million dollars.

The splendid showing is due chiefly to activities in silver mining at Cobalt, which produced $6,301,095.00 in silver, cobalt, arsenic, and nickel.

At this camp four companies have installed concentrators to treat the low-grade ores.

The nickel ores yielded $2,271,616.00, but the product had a refined value of nearly four times that sum. Nearly all of this production was recovered by two companies. About a million dollars' worth of copper was recovered as a by-product of the nickel ores, and the Superior and Bruce mines produced also a relatively small amout of this metal.

W. H. E.

Epitome of the Economic Geology of New Mexico. By FAYETTE A. JONES. Published by Direction of the New Mexico Bureau of Immigration, Albuquerque, New Mexico, 1908.

This well-arranged, neatly bound volume of 47 pages is sure to meet with the favor of prospectors and others interested in the mineral resources of New Mexico. The minerals and other products of present or prospective economic importance include coal, copper, silver, gold, lead, zinc, iron, manganese, molybdenum, fluorite, alum, salt, gypsum, sulphur, mica, asbestos, meerschaum, turquoise, graphite, petroleum, natural gas, guano, marble, stone, clay, and mineral paint. A feature of the booklet is a catalogue showing the distribution of various minerals.

W. H. E.